UNIVERSITY OF MINNESOTA COMPUTER CENTER
Deadstart Systems Report

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Send all comments, criticisms and contributions to the editor: T. W. Lanzatella, University Computer Center, 2520 Broadway Drive, Lauderdale, MN 55113.
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NOTICE OF CHANGES TO THE SYSTEM

Steve Reisman changed the IAF COBOL subsystem to use the system resident version of the COBOL 5 compiler rather than the callprg version.

Marisa Riviere changed the callprg working account where tape resident packages are stored as permanent files. This is a mod to callprg.

Kevin Matthews installed some code into PFM which makes it illegal to save or define permanent files on pack SPL unless the request is system origin or the user index of the request is above AUIMAX (377700). Programs PDUMP, RELOAD,ARCLIST and DUMPPF were changed to use pack STF instead of SPL in various situations.

Tom Kovarik installed his proposed change to 1TA which allows for a surcharge code within a new account file message for time-sharing users (see DSN 8,3 P. 27).

PROPOSED CHANGES TO THE SYSTEM

ERROR - by Andy Hastings

Background

The UNIX program error(1) is a handy little utility which takes as input a series of compiler error messages such as those produced by the Pascal compiler pc(1) or the FORTRAN compiler f77(1). It determines the name of the source program which elicited these error messages and inserts

each message as a comment at the appropriate line in the source file. Optionally, error will also call up the screen editor vi(1) and position the editor to the first line in error in the source file.

Problem

There are four classes of error messages produced by pc. (For the purposes of this discussion, the Pascal compiler pc and the Pascal interpreter pi(1) can be treated as identical.) "w" type errors are informative warnings, such as a variable that was declared but never user. "e" type errors are non-fatal syntax errors from which the compiler c an recover (for example, by inserting a missing semicolon). "E" type errors are fatal compilation errors - no recovery is possible. "s" type errors indicate elements of the program that do not conform to "standard Pascal" as put forth by Jensen and Wirth. "s" type errors are only produced if the argument "-s" is present on the compiler call, or if an imbedded compiler option ($s+) is encountered in the source file. The problem here is that error does not recognize Pascal "s" type errors and completely ignores them.

Solution

Change error so that is recognizes Pascal "s" type errors and treats them just as it does "w", "e", and "E" type errors.

SYSTEM MAINTENANCE: People and Procedures

Last Weeks Systems' Group Meeting - by T. W. Lanzatella

The following proposals were discussed.

1) John Mulhern's proposal for an ENQUEUE command on the VAX/VMS system was approved with some small exception (see DSR 8,4 p. 53). The ENQUEUE X9700 command was changed to include a different type of paper qualifier. Instead of specifying individual attributes such as bond/no bond, color and three hole punch, a single option PAPER=attribute where attribute would imply a specific type of paper, color and perforation. The ENQUEUE SPINWRITER TYPEWHEEL option was changed to FONT.

2) John Mulhern's proposal for a VIEW command on the VAX/VMS system was approved (see DSR 8,4 p. 60).

3) Greg Jensen's proposal to add a CATLSYS option which causes commercial rates to be used in computing permanent file cost was accepted (see DSR 8,4 p. 61).

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Callprg and Library Tape News - by M. Riviere

On April 13, S. Yen will add two fetch type Callprg entries for SIR version 2 (SIRV2) and its editor (SIRV2ED). Since this version of SIR has several differences with the version 1 currently being used,

it is not installed as a future product. The reason for the two index entries is that although SIRVSED is suitable for interactive jobs, SIR2V is batch usage oriented. The installation of SIR will take place on the three Cybers.

The next set of Callprg index and Library tape changes will take place on April 27th. Requests for that date should be submitted no later than April 15th, by noon.

Project Oriented System Group - by Susan Steffen

This weeks's description of current projects in the systems group covers the Programming Language group. This article consists of 4 exhibits that identify the language processors that we cover and the people involved with these processors.

Exhibit 1 lists the Programming Lanugage Processors currently available at UCC and the version of each processor as of December 14, 1981.

Exhibit 2 shows the level of support available for each of the language processors; this includes program maintenance support and consulting support.

Exhibit 3 is a description of the projects currently under way in the Language Processors group.

Exhibit 4 shows what share of each person's time is allocated to these projects.

Exhibit 1.

Programming Language Processor Status at UCC

Andy Mickel 1981-12-14

Computer systems abbreviations:

Cray-COS system	= cra
Cyber-NOS	= cyb
VAX-UNIX	= unx
VAX-VMS	= vms

Programming Language	Description of Language. description of processor available: cs name version type (source)
APL	A Programming Language - numerical and operator-oriented language.
	cyb: APL 2.1 APL interpreter (CDC + U of Massachusetts)
	unx: apl Apr80 apl\11 interpreter (Yale U)
Assembler	machine-dependent, low-level language.
	cra: CAL 1.10 Cray Assembly Language (Cray Research)
	cyb: COMPASS 3.6 COMPrehensive ASSembler (CDC)
	unx: as 4.1 Macro assembler for VAX (UC Berkeley)
	vms: MACRO 2.0 MACRO assembler for VAX (DEC)
BASIC	Beginner's All-Purpose Symbolic Instruction Code - small and limited language.
	cyb: BASIC 3.4 BASIC compiler (CDC)

COBOL-74 — ANSI 1974 standard COmmon Business-Oriented Language.

cyb:	COBOL5	5.4	COBOL-74 compiler (CDC)
vms:	COBOL11	1.2	COBOL-74 compiler (DEC)

Emulator — Assembly Language and Simulator for another computer.

cyb:	EMULATE	1.0	CDC 3200 computer (U of Minnesota)
	MACRO11	1.7	DEC PDP-11 computer (U of Minnesota)
	MIXAL	2.0.	Knuth MIX computer (U of Minnesota)

FORTRAN IV — ANSI 1966 FORmula TRANslation language - numerical language.

cra:	CFT	1.9	Cray ForTran compiler (Cray Research)
cyb:	MNF	5.4	MiNnesota Fortran compiler (U of Minnesota)
	FTN	4.8	ForTraN compiler (CDC)

FORTRAN-77 — ANSI 1977 FORmula TRANslation language - extended numerical language.

cyb:	M77	2.0	Minnesota fortran 77 (U of Minnesota)
	FTN5	5.0	ForTraN compiler (CDC)
unx:	f77	2.0	fortran 77 compiler (Bell Labs + UC Berkeley)
vms:	FORTRAN	2.1	FORTRAN compiler (DEC)

GPSS — General-Purpose Simulation System - discrete-event simulation language.

cyb:	GPSS	5.1	GPSS compiler (Northwestern U)

LISP 1.5 — LISt Processing language - non-numerical, symbolic-expression language.

cyb:	LISP	4.1	LISP interpreter (U of Texas)
unx:	lisp	1.0	Franz Lisp interpreter (UC Berkeley)
	liszt	1.0	Franz Lisp compiler (UC Berkeley)

MIMIC — MIMIC an analog computer - continuous-system simulation language.

cyb:	MIMIC	2.0	interpreter (CDC)

Pascal — ISO 7185 Standard Pascal language - general-purpose, structured language.

cra:	PASCAL	1.0	Pascal translator (Los Alamos)
cyb:	PASCAL	3.2.2	Pascal compiler (ETH Zuerich + U of Minnesota)
unx:	pc	2.0	Pascal compiler (UC Berkeley)
vms:	PASCAL	1.2	Pascal compiler (U of Washington + DEC)

PL/1 — Programming Language 1 - all-purpose language.

cyb:	PL1	rev R	PL/1 compiler (New York U)

RPG-II — Report Program Generator II - business-oriented language.

cyb:	RPGII	1.0	RPG-II translator (U of Minnesota + CDC)

SIL — Systems-Implementation Language - machine-dependent, medium-level language.

cyb:	SYMPL	5.4	SYsteMs Programming Language compiler (CDC)
unx:	cc	4.7	C language compiler (UC Berkeley)
vms:	BLISS	2.0	BLISS-32 language compiler (Carnegie-M U + DEC)

SIMSCRIPT II.5 SIMulation tranSCRIPT language - discrete-event simulation language.
cyb (MERITSS only):
SIMII5 3.2 SIMSCRIPT II.5 compiler (CACI)

SIMULA-67 SIMULAtion language - discrete-event simulation language.
cyb: SIMULA 1.0 SIMULA-67 compiler (CDC)

SNOBOL4 StriNg Oriented and symBOlic Language - non-numeric language.
cyb: SNOBOLC Nov73 SNOBOL4 interpreter (UC Berkeley + Minnesota)
SNOBOL4 3.10 SNOBOL4 interpreter (U of Colorado)

Exhibit 2. Support for Programming Languages

Programming Language Processor	Maintenance Support Level	Person Responsible	Consulting Support
APL			
cyb: APL	2	DEG	DEG
unx: apl	3	DEG	DEG
Assembler			
cra: CAL	2	W.Sackett	DEG,DJB,SMS,JFM,ABM
cyb: COMPASS	2	B.Blasing	DEG,DJB,SMS,JFM,ABM,MBB,GRC
unx: as	2	C.Boylan	C.Boylan
vms: MACRO	2	M.Riviere	M.Riviere
BASIC			
cyb: BASIC	2	SMS	SMS,DJB,JFM,DEG,MBB,GRC
COBOL-74			
cyb: COBOL5	2	S.Reisman	B.Cook,DJB
vms: COBOL11	2	M.Riviere	B.Cook,DJB
Emulator			
cyb: EMULATE	3	R.Hotchkiss	DJB,ABM
cyb: MACRO11	3	DJB	DJB,DEG
cyb: MIXAL	5	DJB	DJB,ABM,JFM
FORTRAN IV			
cyb: MNF/TSF	1	JME	JME,JFM,ABM,SMS,GRC
cyb: FTN	2	SMS	JME,SMS,JFM,ABM
FORTRAN 77			
cra: CFT	2	SMS	T.Kovarik,J.Larson,SMS,GRC
cyb: M77	1	JME	JME,DJB,DEG,GRC

	cyb: FTN5	2	SMS	JME,SMS,MBB
	unx: f77	2	C.Boylan	JME,SMS
	vms: FORTRAN	2	M.Riviere	DEG,DJB
GPSS				
	cyb: GPSS	3	MBB	MBB
LISP 1.5				
	cyb: LISP	3	ABM	ABM,DJB
	unx: lisp	2	ABM	ABM
	unx: liszt	2	ABM	ABM
MIMIC				
	cyb: MIMIC	3	MBB	MBB
Pascal				
	cra: PASCAL	4	DEG,DJB	DEG,DJB
	cyb: PASCAL	1	DEG	DJB,DEG,ABM,JFM,SMS,GRC
	unx: pc	2	ABM	ABM,SMS
	vms: PASCAL	2	M.Riviere	JFM,DJB
PL/1				
	cyb: PL1	4	JFM	JFM,MBB
RPG-II				
	cyb: RPGII	3	SMS	MBB
SIL				
	cyb: SYMPL	2	S.Reisman	SMS
	unx: cc	2	C.Boylan	C.Boylan,ABM,SMS
	vms: BLISS32	2	M.Riviere	DEG
SIMSCRIPT II.5				
	cyb: SIMII5	2	MBB,SMS	MBB
SIMULA-67				
	cyb: SIMULA	3	MBB	MBB
SNOBOL4				
	cyb: SNOBOLC	3	ABM,JFM	ABM,JFM,DJB,DEG,GRC
	cyb: SNOBOL4	3	ABM,JFM	ABM,JFM,DJB,DEG,MBB
Other, non-UCC languages				
	Ada			JFM
	Algol			ABM
	Modula			JFM
	Modula2			DEG

Maintenance Support Levels are

1) high-priority software, maintained by UCC.
2) high-priority software, maintained by outside vendor.
3) low-priority software, maintained by UCC or outside vendor.
4) experimental software, run at your own risk.
5) unsupported, no maintenance provided, use at your own risk.
6) user-contributed and user-supported software.

Person Responsible = person responsible for installation and maintenance of the product.

Consulting Support = those people who can be called on for help with that language. The order of names in the list indicates the order in which they should be consulted.

Abbreviations:

DJB = Dave Bianchi
MBB = Mark Bilodeau
GRC = Greg Chapman
JME = Janet Eberhart
DEG = Dan Germann
ABM = Andy Mickel
JFM = Jim Miner
SMS = Susan Steffen

EXHIBIT 3. PROJECT DESCRIPTIONS

Discrete Projects

CDC Pascal Contract	Initial release version was sent to CDC in September,1981. Update 3 was completed in February, 1982. Continued support includes making CDC Pascal fit ISO standards by September, 1982. Discussions are currently underway with CDC in regard to developing Pascal for a future machine.
Cray Pascal Development	Once a decision has been made on an operating system for the Cray, the Pascal compiler and other software tools will be brought up for user access.
Pascal Software Tools	Modsets were sent out in Pascal-6000 Maintenance Note #2 (1982-02-06). A separate distribution (self-paying) for for the tools is being set up.

CYBER FORTRAN:

M77

We are continuing to improve the reliability of M77, and we will be producing a new record manager version of M77.

MNF

We have decided to resume maintenance of MNF, to try to phase out TSF, and to phase out FETCH(MNF) (non-record manager MNF).

We will write a report for UCC and a series of articles for users on the status of Fortran compilers on the CYBERS.

Ongoing Projects:

All other CYBER Language Processors

We are committed to maintaining the CYBER language processors described in Exhibit 1 at the support level shown in Exhibit 2. We also offer consulting support for users of these products.

Cray Fortran

In order to meet the needs of our Cray users, we now have several versions of the Cray Fortran compiler (CFT) and the system libraries. We are responsible for installation, maintenance and backup of non-standard and pre-release versions of the CFT compiler and system libraries.

All other Cray Language Processors

Currently we maintain the Cray Assembler (CAL), Cray Fortran Compiler (CFT), and system libraries. As language processors become available for the Cray we will support the processors and their users.

UNIX Language Processors

We are supporting the UNIX language processors shown in Exhibit 1 and providing consulting in these areas.

VMS Language Processors

We are supporting the VMS language processors shown on Exhibit 1 and providing consulting in these areas.

Exhibit 4. PROJECTS

	DJB	JME	DEG	ABM	JFM	SMS	MBB	GRC
Discrete Projects:								
CDC Pascal Contract	25%		25%	25%	25%			
Cray Pascal Development			15%	5%	10%			
Pascal Tools	20%			10%	20%			
CYBER FORTRAN:				5%				
M77		25%				5%		5%
MNF		15%				5%		5%
Report on compiler status		10%						
Ongoing Projects:								
All other CYBER Language Processors:								
development	5%		5%	5%	5%	5%	15%	
maintenance	5%		5%	5%	5%	10%	15%	10%
consulting support	5%	10%	5%	5%	5%	5%	15%	5%
CRAY FORTRAN		5%				10%		10%
All other CRAY Language Processors:								
development						5%		
maintenance						5%		5%
consulting support			5%			5%		5%
UNIX Language Processors:								
maintenance			5%	5%				
consulting support		5%	5%			5%		
VMS Language Processors:								
maintenance	10%		10%					
consulting support	10%		10%					
Service to other UCC groups	15%	5%	5%	10%	5%	5%	5%	5%
Supervising	5%			25%		10%		

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VAX/VMS System - by M. Riviere

1. Software additions - Steve Collins installed WORD11, a document handler package, that may be used instead of MAS11. Rene Holoien and Steve are now analyzing the new product and finishing details on its installation. WORD11 requires the creation of a directory on the system pack, (376010), and a WORD11 system definition on the system LOGIN file.

   The system definitions for SYS$WRITEUP and MOREHELP required by Linda Merims proposal were implemented.

2. Special accounts and directories - The (376010) directory on the system pack and the WORD11 account to hold WORD11 files were created.

3. Software to be removed - It was decided that MASS11 will not be used at UCC. The (M12) directory created on the system pack to hold MASS11 software will be removed. The MASS11 group accounts will also be deleted.

4. New phone lists - We will have eight new dial in ports on the system. Half of these ports will be for 300 baud rate terminals and half for 1200. There will be a rotary for each speed. These new ports will be connected through the DH's. If the DH's driven terminals prove to be fully reliable we may combine the new lines with the old rotaries. In the mean-time, it will be desirable that UCC staff accessing the system during its peak usage hours (10:00 am to 12:00 pm and 1:00 pm to 5:00 pm) could use it from the new lines. I will announce the phone numbers as soon as they are installed.

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Cyber Deadstart Dump Analysis from 3/22 to 4/4 - by B. E. Blasing

Cyber 730 - 17 PPU Machine

There were no unscheduled deadstarts for the period. (Yeah!)

Cyber 74 - 14 PPU Machine

Sat., 4/3, 12:30	DD2016
Sat., 4/3, 12:55	DD2017
Sat., 4/3, 16:31	DD2020

Various combinations of scopes blanking and CPUMTR error exits. The engineers were called in to correct a memory problem.

Cyber 172 - MERITSS

Wed., 3/24, 22:42	DD13

DL02 began getting unrecovered disk errors. A level 3 deadstart corrected the problem.

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VM/UNIX Down Time Summary 3/18 - 4/3 by C. Boylan

Tue., 3/23, 1455-1500

System paniced with a machine check, "cache parity error". Diagnostics the next day found nothing. Sigh. No Dump.

Wed., 3/24, 0800-0938

System was down for PM. PM is supposed to happen earlier from now on.

Wed., 3/31 0800-0929

System was late coming back up after the line printer controller was unsuccessfully installed. Controller, as received from FE had a bad chip on it and crashed the machine when the UBA was used.

Wed., 3/31 2244-2250

System was rebooted to fix a problem with the autodialer. No one was attempting to use the machine at the time.

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VAX/VMS Down Time Summary 3/17/82 10:30-10:33 by M. Riviere

Tuesday 03/30/82, 10:30-10:33

All DH terminals hung. Problem cleared with booting.